

**City University of Hong Kong  
Course Syllabus**

**offered by  
Department of Mechanical Engineering  
with effect from Semester A 2020 / 2021**

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**Part I Course Overview**

<b>Course Title:</b>	Capstone Project I
<b>Course Code:</b>	MNE3116
<b>Course Duration:</b>	1 semester
<b>Credit Units:</b>	3 credits
<b>Level:</b>	B3
<b>Medium of Instruction:</b>	English
<b>Medium of Assessment:</b>	English
<b>Prerequisites:</b> <i>(Course Code and Title)</i>	Completed at least 30 CUs of the student's major courses with minimum CGPA of 3.0
<b>Precursors:</b> <i>(Course Code and Title)</i>	Nil
<b>Equivalent Courses:</b> <i>(Course Code and Title)</i>	MBE3116/SEEM3116/JC3116 Capstone Project I
<b>Exclusive Courses:</b> <i>(Course Code and Title)</i>	Nil

## Part II Course Details

### 1. Abstract

(A 150-word description about the course)

The aim of this course is to enable a student with proven ability to strengthen the theoretical and analytical foundations of a selected research topic or theme within his/her programme of study. This course will prepare such a student for the challenge of the Capstone Project II in the final year.

The student is to be guided by a supervisor, who will be responsible for the design, delivery and assessment of the course subject matter.

### 2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	<b>Define</b> the scope of the intended research topic or theme.		✓	✓	
2.	<b>Explain</b> the significance of the intended research topic or theme.			✓	
3.	<b>Discuss</b> the state of the art knowledge of the intended research topic or theme.			✓	
4.	<b>Propose</b> a capstone project of the intended research topic or theme with clearly stated elements of discovery or innovation.			✓	
5.	<b>Communicate</b> orally and in writing the proposed research intent.			✓	

\* If weighting is assigned to CILOs, they should add up to 100%.

N.A.

A1: Attitude

*Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.*

A2: Ability

*Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.*

A3: Accomplishments

*Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.*

### 3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
T1	Each student shall define, under the guidance and direction of a supervisor, the nature, aim, scope and significance of a selected research topic or theme related to his/her major.	✓	✓				
T2	Each student shall review and critique the available body of knowledge and background information related to the intended research topic or theme.			✓			
T3	Each student shall formulate the appropriate methodology and develop a capstone project with clearly stated elements of discovery or innovation.				✓		
T4	Present the Capstone Project Proposal orally and in writing (a detailed proposal and a well-designed poster).					✓	

Each student taking this course will be required to undertake a series of guided studies as assigned by the supervisor which will include reading and critique of selected literature related to the intended research topic or theme. The student may be directed to attend certain lecture or seminar as deemed appropriate by the supervisor.

The content of this directed study course must be submitted to the course leader of the Capstone Projects by Week 4 of the semester for endorsement.

### 4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.					Weighting*	Remarks
	1	2	3	4	5		
Continuous Assessment: 100%							
Tests and discussions	✓	✓	✓	✓		50%	
Written Proposal				✓		30%	
Poster (A0 or A1 size)					✓	10%	Assessed by course examiner
Oral Presentation					✓	10%	Assessed by course examiner
Examination: 0%							

\* The weightings should add up to 100%.

100%
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## 5. Assessment Rubrics

*(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)*

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Tests and discussions	Problem identification, literature search, problem definition, identify relevant methodologies to solve the problem, defining the outcomes.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Written Proposal	Documenting the stages involved in problem identification, literature search, problem definition, identify relevant methodologies to solve the problem, defining the outcomes.	High	Significant	Moderate	Basic	Not even reaching marginal levels
3. Poster (A0 or A1 size)	Concise presentation of the project highlights.	High	Significant	Moderate	Basic	Not even reaching marginal levels
4. Oral Presentation	Oral presentation covering the stages involved in problem identification, literature search, problem definition, identify relevant methodologies to solve the problem, defining the outcomes.	High	Significant	Moderate	Basic	Not even reaching marginal levels

### **Part III Other Information** (more details can be provided separately in the teaching plan)

#### **1. Keyword Syllabus**

*(An indication of the key topics of the course.)*

The course is flexible, and has no specific syllabus.

#### **2. Reading List**

##### **2.1 Compulsory Readings**

*(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)*

There are no specific compulsory readings. However, the student will be guided to follow one or more book(s) depending on the selected topic to be investigated and the relevant methodologies that could be explored to carry out this capstone project I.

##### **2.2 Additional Readings**

*(Additional references for students to learn to expand their knowledge about the subject.)*

Student initiative is compulsory to search the literature and explore the topics associated with the project being undertaken through this course.